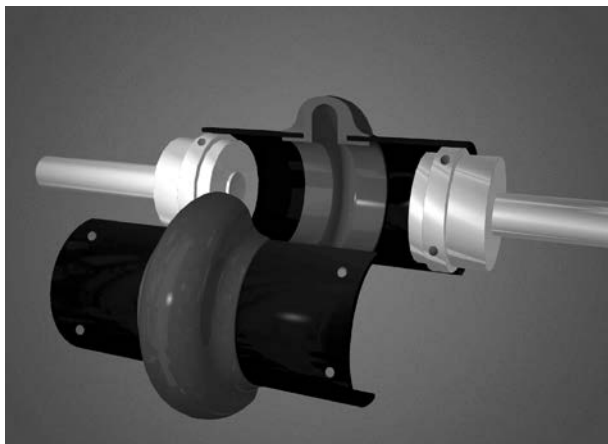


# Dura-Flex® Couplings

## F2



Patent No. 5,611,732



The specially designed split-in-half element can be easily replaced without moving any connected equipment.

## FEATURES

- Designed from the ground up using finite element analysis to maximize flex life.
- Easy two piece element installation. No need to move the hubs during replacement.
- One spacer size to handle most different between shaft spacings.
- Light weight element absorbs shock loading and torsional vibration.
- Same hubs used on both spacer and standard elements.
- No lubrication.
- Good chemical resistance.
- Stock bore-to-size (BTS), Sure-Grip bushed (QD) and Taper-Lock® bushed (TL) Hubs.

® Taper-Lock is a registered trade name of Rockwell Automation-Dodge.

# Dura-Flex® Coupling

## Selection

### A. Determine the Prime Mover Classification

| Prime Mover   | Class |
|---|-------|
| • Electric Motors (Standard duty), Hydraulic Motors, Turbines | A     |
| • Gasoline or Steam Engines (4 or more cylinders)             | B     |
| • Diesel or Gas Engines, High Torque Electric Motors          | C     |

### B. Determine the Load Characteristics and the Service Factor

| Typical Applications  | Load           | Characteristics   | Prime Mover Class |     |     |
|---|----------------|---|-------------------|-----|-----|
|   |                |   | A                 | B   | C   |
| Agitators (pure liquids), Blowers (centrifugal), Can and Bottle Filling Machines, Conveyors - uniformly loaded or fed (belt, chain, screw), Fans (centrifugal), Generators (uniform load), Pumps (centrifugal), Screens (air washing, water), Stokers (uniform load), Woodworking Machines (planers, routers, saws)   | Uniform        | Even loads - no shock - non reversing - infrequent starts (up to 10 per hour) - low starting torques    | 1.0               | 1.5 | 2.0 |
| Beaters, Blowers (lobe, vane), Compressors (centrifugal, rotary), Conveyors - non uniformly loaded or fed (belt, bucket, chain, screw), Dredge Pumps, Fans (forced draft, propeller), Kilns, Paper Mills (calendars, converting machines, conveyors, dryers, mixers, winders), Printing Presses, Pumps (gear, rotary), Shredders, Textile Machinery (dryers, dyers) | Moderate shock | Uneven loads – moderate shock – infrequent reversing – moderate torques                                 | 1.5               | 2.0 | 2.5 |
| Cranes (bridge, hoist, trolley), Fans (cooling tower), Generators (welding), Hammer Mills, Mills (ball, pebble, rolling, tube, tumbling), Pumps (oil well), Wire Drawing Machines   | Heavy shock    | Uneven loads - heavy shock - frequent starts and stops - high starting torques -high inertia peak loads | 2.0               | 2.5 | 3.0 |

**Note:** The above applications depict the generally accepted conditions encountered in industry. Conditions subject to extreme temperatures, abrasive dusts, corrosive liquids, excessively high starting torques, etc., must be considered as extra heavy shock loads. These conditions will increase service factors. Consult TB Wood's for these selections.

### C. Calculate Design Horsepower or Design Torque

- If Prime Mover is a 1160, 1750, or 3500 rpm motor.  
Design Hp = Prime Mover HP x Service Factor  
Go to page F2—3 and reference the corresponding motor rpm column.
- If Prime Mover is not one of the three speeds listed above.  
Design HP @ 100 rpm = (Primer Mover Hp x Service Factor x 100) / Coupling RPM  
Go to page F2—3 and reference HP @ 100 RPM column.
- If Using Prime Mover Torque  
Design Torque = Prime Mover Torque x Service Factor  
Go to page F2—3 and reference Torque column.

### D. Select Coupling (DURA-FLEX Couplings are sold by component)

A DURA-FLEX Assembly consists of one element (STD or Spacer) and two hubs (BTS or QD). Optional high speed rings may also be ordered for spacer elements. Below is an ordering example for Dura-Flex Couplings.

|              | Part #                | Description  | Size 20 Example |
|--------------|-----------------------|--|-----------------|
| Element (1)  | WE2 - WE80            | Standard element, sizes 2 through 80                     | WE20            |
|              | WES2 - WES80          | Spacer element, sizes 2 through 80                       | WES20           |
| Hubs (2)     | WE[2-80] x Bore       | BTS hubs - stock bore (specify bore size)                | WE20H138        |
|              | WE[4-80] - Bushing    | QD hubs (sizes 4 through 80, bushing not included)       | WE20H           |
|              | WE[3-80] - TL Bushing | TL hubs (sizes 3 through 80, bushing not included)       | WE20HTL         |
| HS Rings (1) | WE[20-80]R            | High speed rings - sizes 20-80 (standard for sizes 2-10) | WE20R           |

### COUPLING RATINGS (STD & SPACER)

| Coupling Size | HP@RPM |      |      |      | Torque (IN LBS) | Stiffness in lbs/Radian | Maximum RPM |        | Max. Misalignment |         |
|---------------|--------|------|------|------|-----------------|-------------------------|-------------|--------|-------------------|---------|
|               | 100    | 1160 | 1750 | 3500 |                 |                         | Standard    | Spacer | Parallel          | Angular |
| WE2           | .30    | 3.5  | 5.3  | 11   | 190             | 3170                    | 7500        | 7500   | 1/16              | 4°      |
| WE3           | .58    | 6.7  | 10   | 20   | 365             | 4710                    | 7500        | 7500   | 1/16              | 4°      |
| WE4           | .88    | 10   | 15   | 31   | 550             | 5370                    | 7500        | 7500   | 1/16              | 4°      |
| WE5           | 1.5    | 17   | 26   | 51   | 925             | 9820                    | 7500        | 7500   | 1/16              | 4°      |
| WE10          | 2.3    | 27   | 40   | 81   | 1450            | 15800                   | 7500        | 7500   | 1/16              | 4°      |
| WE20          | 3.7    | 42   | 64   | 128  | 2300            | 27600                   | 6600        | 4800   | 3/32              | 3°      |
| WE30          | 5.8    | 67   | 101  | 203  | 3650            | 42200                   | 5800        | 4200   | 3-32              | 3°      |
| WE40          | 8.9    | 101  | 153  | 305  | 5500            | 65200                   | 5000        | 3600   | 3/32              | 3°      |
| WE50          | 12     | 141  | 212  | 425  | 7650            | 123000                  | 4200        | 3100   | 3-32              | 3°      |
| WE60          | 20     | 230  | 347  | 694  | 12500           | 167000                  | 3800        | 2800   | 1/8               | 2°      |
| WE70          | 35     | 407  | 615  | 1229 | 22125           | 205000                  | 3600        | 2600   | 1/8               | 2°      |
| WE80          | 63     | 727  | 1097 | 2195 | 39500           | 305000                  | 2000        | 1800   | 1/8               | 2°      |

\*Maximum spacer RPM = Maximum standard RPM if using optional high speed rings. Operating temperature range is -40 F to 200 F.

### BTS HUBS - STOCK BORES

| Bore Size       | Bore Designation* | WE2H  | WE3H  | WE4H    | WE5H  | WE10H | WE20H | WE30H | WE40H | WE50H | WE60H | WE70H | WE80H |
|-----------------|-------------------|-------|-------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1/2             | 12                | OS    | OS    |         |       |       |       |       |       |       |       |       |       |
| 5/8             | 58                | X     | X     | OSX     |       |       |       |       |       |       |       |       |       |
| 3/4             | 34                | XS    | XS    |         | OS    |       |       |       |       |       |       |       |       |
| 7/8             | 78                | XS    | XS    | XS      | X     | OS    | OS    |       |       |       |       |       |       |
| 15/16           | 15/16             |       |       | X       |       |       |       |       |       |       |       |       |       |
| 1               | 1                 | XS    | XS    | XS      | X     | X     | X     | OS    | OS    |       |       |       |       |
| 1-1/16          | 1116              |       |       |         | X     |       |       |       |       |       |       |       |       |
| 1-1/8           | 118               | XS    | XS    | XS      | XS    | XS    | XS    | X     |       | O     | O     |       |       |
| 1-3/16          | 1316              |       |       | X       | X     |       |       |       |       |       |       |       |       |
| 1-1/4           | 114               |       | XS    | X       | X     | X     | XS    |       |       |       |       |       |       |
| 1-5/16          | 1516              |       |       | X       | X     |       |       |       |       |       |       |       |       |
| 1-3/8           | 138               |       | XS    | XS      | XS    | XS    | XS    | XS    |       |       |       | O     |       |
| 1-7/16          | 1716              |       |       | X       | X     | X     |       |       |       |       |       |       |       |
| 1-1/2           | 112               |       |       | X       | X     | X     | XS    | XS    | XS    |       |       |       |       |
| 1-9/16          | 1916              |       |       | X       |       |       |       |       |       |       |       |       |       |
| 1-5/8           | 158               |       |       | XS      | XS    | XS    | XS    | XS    | XS    |       |       |       |       |
| 1-11/16         | 11116             |       |       | X       | X     | X     | X     | X     |       |       |       |       |       |
| 1-3/4           | 134               |       |       |         | X     | X     | XS    | XS    | XS    | X     |       |       |       |
| 1-7/8           | 178               |       |       |         | XS    | XS    | XS    | XS    | XS    | X     |       |       | O     |
| 1-15/16         | 11516             |       |       |         |       | X     | X     |       |       |       |       |       |       |
| 2               | 2                 |       |       |         |       | S     | X     | XS    |       |       |       |       |       |
| 2-1/8           | 218               |       |       |         |       | X     | XS    | XS    | X     | X     | X     |       |       |
| 2-3/16          | 2316              |       |       |         |       |       | X     |       |       |       |       |       |       |
| 2-1/4           | 214               |       |       |         |       |       | XS    | XS    | X     | X     |       |       |       |
| 2-3/8           | 238               |       |       |         |       |       | XS    | XS    | XS    | X     | X     | X     |       |
| 2-1/2           | 212               |       |       |         |       |       |       | XS    | X     |       |       |       |       |
| 2-5/8           | 258               |       |       |         |       |       |       |       |       |       |       | X     |       |
| 2-3/4           | 234               |       |       |         |       |       |       | XS    | XS    |       |       |       |       |
| 2-7/8           | 278               |       |       |         |       |       |       | XS    | XS    | X     | X     | X     | X     |
| 3-3/8           | 338               |       |       |         |       |       |       |       | XS    | X     | X     | X     | X     |
| 3-3/4           | 334               |       |       |         |       |       |       |       |       |       |       |       | X     |
| 3-7/8           | 378               |       |       |         |       |       |       |       |       |       | X     | X     | X     |
| 4               | 4                 |       |       |         |       |       |       |       |       |       | X     |       |       |
| 4-3/8           | 438               |       |       |         |       |       |       |       |       |       |       | X     |       |
| 4-7/8           | 478               |       |       |         |       |       |       |       |       |       |       |       | X     |
| <b>MAX BORE</b> |                   | 1-1/8 | 1-3/8 | 1-11/16 | 1-7/8 | 2-1/8 | 2-3/8 | 2-7/8 | 3-3/8 | 3-5/8 | 4     | 4-1/2 | 6     |

O NO KEYSEAT

X STANDARD KEYSEAT

S STEEL HUB OPTION

MAX. BORE INCLUDES STANDARD KEYSEAT

\* **PRODUCT NUMBER EXAMPLE** → WE5H114 for WE5 x 1-1/4 HUB  
WE5HS118 for WE5 x 1-1/8 STEEL HUB

### BORE TOLERANCES (BTS)

| BORE SIZE              | TOLERANCE          |
|------------------------|--------------------|
| UP TO AND INCLUDING 2" | + .0005 to + .0015 |
| OVER 2"                | + .0005 to + .0020 |

# Dura-Flex® BTS Couplings

## Dimensions

### Assembly Dimensions for BTS Couplings.

(All dimensions in inches) Minimum Shaft Spacing = .25"

### Dimensions Common to BTS Standard and Spacer Assemblies

| SIZE         | A     | B     | C    | Max. Bore |
|--------------|-------|-------|------|-----------|
| WE2 & WES2   | 3.70  | 1.85  | 0.94 | 1-1/8     |
| WE3 & WES3   | 4.24  | 2.32  | 1.50 | 1-3/8     |
| WE4 & WES4   | 4.52  | 2.60  | 1.69 | 1-11/16   |
| WE5 & WES5   | 5.40  | 3.13  | 1.75 | 1-7/8     |
| WE10 & WES10 | 6.48  | 3.65  | 1.88 | 2-1/8     |
| WE20 & WES20 | 7.36  | 4.48  | 2.06 | 2-3/8     |
| WE30 & WES30 | 8.41  | 5.42  | 2.31 | 2-7/8     |
| WE40 & WES40 | 9.71  | 6.63  | 2.50 | 3-3/8     |
| WE50 & WES50 | 11.34 | 8.13  | 2.75 | 3-5/8     |
| WE60 & WES60 | 12.53 | 8.75  | 3.25 | 4         |
| WE70 & WES70 | 14.00 | 9.25  | 3.62 | 4-1/2     |
| WE80 & WES80 | 16.00 | 11.30 | 4.98 | 6         |

### Standard Element Assembly

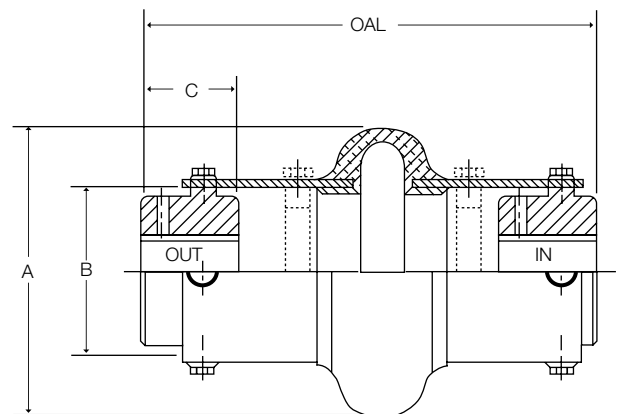
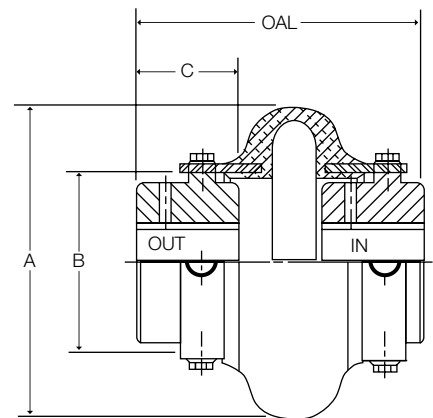
| Product No.* | OAL MAX | OAL MIN | Maximum DBSE | Weight lbs. |
|--------------|---------|---------|--------------|-------------|
| WE2          | 3.78    | 3.22    | 1.90         | 1.5         |
| WE3          | 4.32    | 3.80    | 1.32         | 3.3         |
| WE4          | 4.68    | 3.82    | 1.30         | 4.4         |
| WE5          | 5.30    | 4.32    | 1.80         | 7.4         |
| WE10         | 5.57    | 4.33    | 1.81         | 11.2        |
| WE20         | 6.82    | 4.62    | 2.70         | 16.3        |
| WE30         | 7.61    | 5.19    | 2.99         | 27.7        |
| WE40         | 8.16    | 5.56    | 3.16         | 45.4        |
| WE50         | 9.21    | 6.13    | 3.71         | 59.0        |
| WE60         | 10.70   | 7.20    | 4.20         | 82.6        |
| WE70         | 11.88   | 8.24    | 4.64         | 109         |
| WE80         | 16.60   | 10.48   | 6.64         | 242         |

\* Product number is element only.

### Spacer Element Assembly

| Product No.* | OAL MAX | OAL MIN | Maximum DBSE | Weight lbs. |
|--------------|---------|---------|--------------|-------------|
| WES2         | 5.92    | 5.72    | 4.04         | 2.5         |
| WES3         | 8.02    | 7.50    | 5.02         | 4.8         |
| WES4         | 8.38    | 7.52    | 5.00         | 6.1         |
| WES5         | 8.50    | 7.52    | 5.00         | 9.4         |
| WES10        | 8.76    | 7.52    | 5.00         | 13.6        |
| WES20        | 11.17   | 9.35    | 7.05         | 19.2        |
| WES30        | 11.65   | 9.35    | 7.03         | 31.0        |
| WES40        | 11.89   | 9.35    | 6.89         | 48.9        |
| WES50        | 12.31   | 9.35    | 6.81         | 63.5        |
| WES60        | 16.28   | 12.78   | 9.78         | 91.0        |
| WES70        | 16.81   | 13.17   | 9.57         | 128         |
| WES80        | 19.73   | 13.61   | 9.77         | 258         |

\* Product number is element only.



Sizes WES2 through WES10 are furnished with high speed rings. All larger sizes, rings can be ordered as an option.

All weights shown are with MPB style hubs.

Shaft Spacing from 1/4" up to the MAX DBSE can be accommodated by positioning hubs IN or OUT or by using various existing hole patterns.  
OAL - Over All Length does not include bolt heads

# Dura-Flex® QD Bushed Couplings

## Dimensions

### Assembly Dimensions for QD Bushed Couplings.

(All dimensions in inches) Minimum Shaft Spacing = .25"

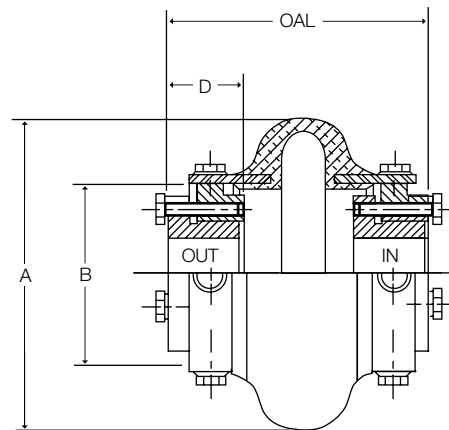
#### Dimensions Common to QD Bushed Standard and Spacer Assemblies

| SIZE         | A     | B    | D    | Bushing | Max. Bore |
|--------------|-------|------|------|---------|-----------|
| WE4 & WES4   | 4.52  | 2.60 | 1.00 | JA      | 1-1/4     |
| WE5 & WES5   | 5.40  | 3.13 | 1.25 | SH      | 1-11/16   |
| WE10 & WES10 | 6.48  | 3.65 | 1.31 | SDS     | 2         |
| WE20 & WES20 | 7.36  | 4.48 | 1.88 | SK      | 2-5/8     |
| WE30 & WES30 | 8.41  | 5.42 | 2.00 | SF      | 2-15/16   |
| WE40 & WES40 | 9.71  | 6.63 | 2.63 | E       | 3-1/2     |
| WE50 & WES50 | 11.34 | 8.13 | 2.63 | E       | 3-1/2     |
| WE60 & WES60 | 12.53 | 8.75 | 3.63 | F       | 4         |
| WE70 & WES70 | 14.00 | 9.25 | 4.50 | J       | 4-1/2     |
| WE80 & WES80 | 16.00 | 11.3 | 6.75 | M       | 5-1/2     |

#### Standard Element Assembly

| Product No.* | OAL MAX | OAL MIN | Maximum DBSE | Weight lbs. |
|--------------|---------|---------|--------------|-------------|
| WE4          | 3.88    | 3.24    | 1.88         | 3.8         |
| WE5          | 4.50    | 4.24    | 2.00         | 6.0         |
| WE10         | 5.07    | 3.83    | 2.45         | 8.8         |
| WE20         | 6.62    | 4.38    | 2.86         | 15.9        |
| WE30         | 6.19    | 5.43    | 2.19         | 25.1        |
| WE40         | 7.00    | 6.50    | 1.74         | 47.0        |
| WE50         | 8.13    | 6.61    | 2.87         | 48.0        |
| WE60         | 9.00    | 8.68    | 1.74         | 79.4        |
| WE70         | 10.86   | 10.12   | 1.86         | 124         |
| WE80         | 15.10   | 13.97   | 1.60         | 268         |

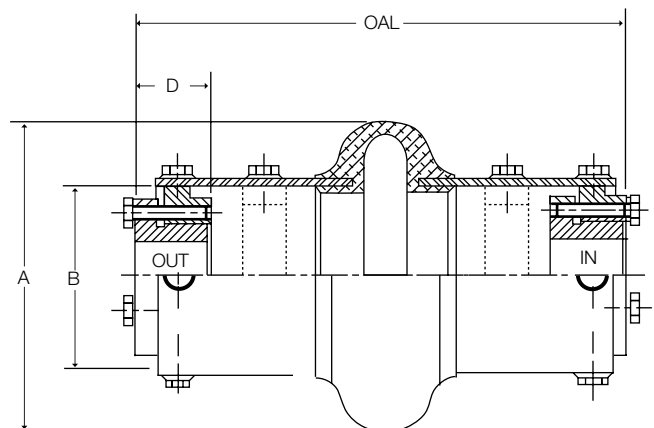
\* Product number is element only.



#### Spacer Element Assembly

| Product No.* | OAL MAX | OAL MIN | Maximum DBSE | Weight lbs. |
|--------------|---------|---------|--------------|-------------|
| WES4         | 7.58    | 7.28    | 5.58         | 5.5         |
| WES5         | 7.70    | 7.44    | 5.20         | 8.0         |
| WES10        | 8.26    | 7.28    | 5.64         | 11.2        |
| WES20        | 10.97   | 9.35    | 7.21         | 18.8        |
| WES30        | 10.23   | 9.47    | 6.23         | 28.4        |
| WES40        | 10.73   | 10.23   | 5.47         | 50.5        |
| WES50        | 11.23   | 9.71    | 5.99         | 52.5        |
| WES60        | 14.58   | 14.34   | 7.32         | 107         |
| WES70        | 15.79   | 15.05   | 6.79         | 143         |
| WES80        | 18.23   | 17.11   | 4.73         | 284         |

\* Product number is element only.



Sizes WES4 through WES10 are furnished with high speed rings. All larger sizes, rings can be ordered as an option.

All weights shown are with MPB bushings.

Shaft Spacing from 1/4" up to the MAX DBSE can be accommodated by positioning hubs IN or OUT or by using various existing hole patterns.

OAL - Over All Length does not include bolt heads

# Dura-Flex® Taper-Lock® Bushed Couplings

## Dimensions

### Assembly Dimensions for Taper-Lock® Bushed Couplings.

(All dimensions in inches) Minimum Shaft Spacing = .25"

### Dimensions Common to Taper-Lock® Bushed Standard and Spacer Assemblies

| SIZE         | A     | B    | H    | Bushing | Max. Bore |
|--------------|-------|------|------|---------|-----------|
| WE3 & WES3   | 4.24  | 2.32 | 0.88 | TL1008  | 1         |
| WE4 & WES4   | 4.52  | 2.60 | 0.88 | TL1008  | 1         |
| WE5 & WES5   | 5.40  | 3.13 | 0.88 | TL1108  | 1-1/8     |
| WE10 & WES10 | 6.48  | 3.65 | 1.00 | TL1310  | 1-7/16    |
| WE20 & WES20 | 7.36  | 4.48 | 1.00 | TL1610  | 1-11/16   |
| WE30 & WES30 | 8.41  | 5.42 | 1.25 | TL2012  | 2-1/8     |
| WE40 & WES40 | 9.71  | 6.63 | 1.75 | TL2517  | 2-11/16   |
| WE50 & WES50 | 11.34 | 8.13 | 1.75 | TL2517  | 2-11/16   |
| WE60 & WES60 | 12.53 | 8.75 | 2.00 | TL3020  | 3-1/4     |
| WE70 & WES70 | 14.00 | 9.25 | 3.50 | TL3535  | 3-15/16   |
| WE80 & WES80 | 16.00 | 11.3 | 4.00 | TL4040  | 4-7/16    |

### Standard Element Assembly

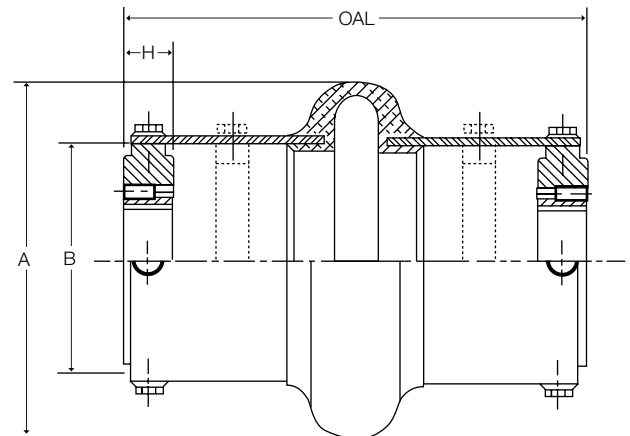
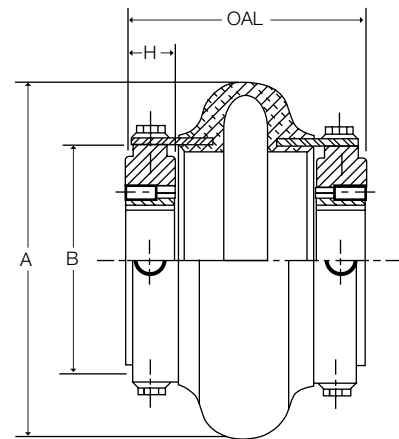
| Product No.* | OAL   | Maximum DBSE | Weight lbs. |
|--------------|-------|--------------|-------------|
| WE3          | 3.44  | 1.68         | 1.8         |
| WE4          | 3.44  | 1.68         | 2.6         |
| WE5          | 3.94  | 2.18         | 4.0         |
| WE10         | 4.07  | 2.07         | 6.0         |
| WE20         | 4.50  | 2.50         | 9.0         |
| WE30         | 5.07  | 2.57         | 13.6        |
| WE40         | 5.88  | 2.38         | 21.8        |
| WE50         | 6.51  | 3.01         | 31.5        |
| WE60         | 7.32  | 3.32         | 46.6        |
| WE70         | 9.42  | 2.42         | 66.7        |
| WE80         | 11.72 | 3.72         | 82.0        |

\* Product number is element only.

### Spacer Element Assembly

| Product No.* | OAL MAX | OAL MIN | Maximum DBSE | Weight lbs. |
|--------------|---------|---------|--------------|-------------|
| WES3         | 7.14    | 7.28    | 5.38         | 3.2         |
| WES4         | 7.14    | 7.28    | 5.38         | 4.2         |
| WES5         | 7.14    | 7.28    | 5.38         | 6.0         |
| WES10        | 7.26    | 7.28    | 5.26         | 7.9         |
| WES20        | 8.85    | 9.35    | 6.85         | 11.9        |
| WES30        | 9.11    | 9.35    | 6.61         | 18.0        |
| WES40        | 9.61    | 9.61    | 6.11         | 26.8        |
| WES50        | 9.61    | 9.61    | 6.11         | 37.4        |
| WES60        | 12.90   | 12.90   | 8.90         | 60.7        |
| WES70        | 14.35   | 14.35   | 7.35         | 81.4        |
| WES80        | 14.85   | 14.35   | 6.85         | 93.2        |

\* Product number is element only.



Sizes WES3 through WES10 are furnished with high speed rings. All larger sizes, rings can be ordered as an option.

All weights shown are with MPB bushings.

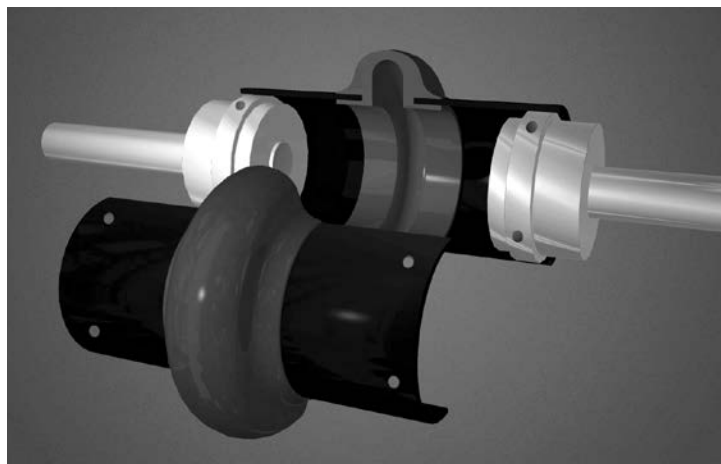
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Patent No. 5,611,732

## FEATURES

- Metric Hardware
- Designed from the ground up using finite element analysis to maximize flex life.
- Easy two piece element installation. No need to move the hubs during replacement.
- One spacer size to handle most different between shaft spacings.
- Light weight element absorbs shock loading and torsional vibration.
- Same hubs used on both spacer and standard elements.
- No lubrication.
- Good chemical resistance.



The specially designed split-in-half element can be easily replaced without moving any connected equipment.

# Dura-Flex® Metric Couplings

## Dimensions

### A. Determine the Prime Mover Classification

| Prime Mover   | Class |
|---|-------|
| • Electric Motors (Standard duty), Hydraulic Motors, Turbines | A     |
| • Gasoline or Steam Engines (4 or more cylinders)             | B     |
| • Diesel or Gas Engines, High Torque Electric Motors          | C     |

### B. Determine the Load Characteristics and the Service Factor

| Typical Applications  | Load           | Characteristics  | Prime Mover Class |     |     |
|---|----------------|--|-------------------|-----|-----|
|   |                |  | A                 | B   | C   |
| Agitators (pure liquids), Blowers (centrifugal, Can and Bottle Filling Machines, Conveyors - uniformly loaded or fed (belt, chain, screw), Fans (centrifugal), Generators (uniform load), Pumps (centrifugal), Screens (air washing, water), Stokers (uniform load), Woodworking Machines (planers, routers, saws)  | Uniform        | Even loads - no shock - non reversing - infrequent starts (up to 10 per hour) - low starting torques     | 1.0               | 1.5 | 2.0 |
| Beaters, Blowers (lobe, vane), Compressors (centrifugal, rotary), Conveyors - non uniformly loaded or fed (belt, bucket, chain, screw), Dredge Pumps, Fans (forced draft, propeller), Kilns, Paper Mills (calendars, converting machines, conveyors, dryers, mixers, winders), Printing Presses, Pumps (gear, rotary), Shredders, Textile Machinery (dryers, dyers) | Moderate shock | Uneven loads - moderate shock<br>Infrequent reversing-moderate torques                                   | 1.5               | 2.0 | 2.5 |
| Cranes (bridge, hoist, trolley), Fans (cooling tower), Generators (welding), Hammer Mills, Mills (ball, pebble, rolling, tube, tumbling), Pumps (oil well), Wire Drawing Machines   | Heavy shock    | Uneven loads - heavy shock - frequent starts and stops - high starting torques - high inertia peak loads | 2.0               | 2.5 | 3.0 |

**Note:** The above applications depict the generally accepted conditions encountered in industry. Conditions subject to extreme temperatures, abrasive dusts, corrosive liquids, excessively high starting torques, etc., must be considered as extra heavy shock loads. These conditions will increase service factors. Consult TB Wood's for these selections.

### C. Calculate Design Horsepower or Design Torque

- If Prime Mover is a 970, 1450, or 3000 rpm motor.  
Design KW = Prime Mover KW x Service Factor  
Go to page F2—9 and reference the corresponding motor rpm column.
- If Prime Mover is not one of the three speeds listed above.  
Design KW @ 100 rpm = (Prime Mover KW x Service Factor x 100) / Coupling RPM  
Go to page F2—9 and reference KW @ 100 RPM column.
- If Using Prime Mover Torque  
Design Torque = Prime Mover Torque x Service Factor  
Go to page F2—9 and reference Torque column.



## Dimensions

### D. DURA-FLEX Couplings are sold by component

A DURA-FLEX Assembly consists of one element (STD or Spacer) and two hubs (BTS or QD). Optional high speed rings may also be ordered for spacer elements. Below is an ordering example for Dura-Flex Couplings.

|               | Part #                | Description  | Size 20 Example |
|---------------|-----------------------|--|-----------------|
| Element (1)   | WE2M – WE80M          | Standard Metric Element, sizes 2 through 80              | WE20M           |
|               | WES2M – WES80M        | Spacer Metric Element, sizes 2 through 80                | WES20M          |
| Hubs (2)      | WE[2-80] HMPB         | BTS Hubs – MPB suitable to rebore                        | WE20HMPB        |
|               | WE[3-80] HMTL Bushing | TL Hubs (sizes 3 through 80, bushing not included)       | WE20HMTL        |
| *HS Rings (1) | WE[20-80]RM           | High speed rings – sizes 20-80 (standard for sizes 2-10) | WE20RM          |

\*Spacer element only

### COUPLING RATINGS (STD & SPACER)

| Coupling Size | KW @ RPM |     |      |      | Torque (Nm) | Stiffness NM/RAD | Maximum Rpm |          | Max. Misalignment |         |
|---------------|----------|-----|------|------|-------------|------------------|-------------|----------|-------------------|---------|
|               | 100      | 970 | 1450 | 3000 |             |                  | Standard    | Spacer * | Parallel (MM)     | Angular |
| <b>WE2M</b>   | 0.22     | 2.2 | 3.2  | 6.7  | 22          | 358              | 7500        | 7500     | 1.6               | 4°      |
| <b>WE3M</b>   | 0.43     | 4.2 | 6.3  | 13   | 41          | 532              | 7500        | 7500     | 1.6               | 4°      |
| <b>WE4M</b>   | 0.66     | 6.4 | 9.5  | 20   | 62          | 607              | 7500        | 7500     | 1.6               | 4°      |
| <b>WE5M</b>   | 1.1      | 11  | 16   | 33   | 105         | 1110             | 7500        | 7500     | 1.6               | 4°      |
| <b>WE10M</b>  | 1.7      | 17  | 25   | 51   | 164         | 1790             | 7500        | 7500     | 1.6               | 4°      |
| <b>WE20M</b>  | 2.7      | 26  | 39   | 82   | 260         | 3120             | 6600        | 4800     | 2.4               | 3°      |
| <b>WE30M</b>  | 4.3      | 42  | 63   | 130  | 412         | 4770             | 5800        | 4200     | 2.4               | 3°      |
| <b>WE40M</b>  | 6.6      | 64  | 96   | 198  | 621         | 7370             | 5000        | 3600     | 2.4               | 3°      |
| <b>WE50M</b>  | 9.1      | 88  | 131  | 272  | 864         | 13900            | 4200        | 3100     | 2.4               | 3°      |
| <b>WE60M</b>  | 15       | 144 | 215  | 444  | 1412        | 18900            | 3800        | 2800     | 3.2               | 2°      |
| <b>WE70M</b>  | 26       | 254 | 380  | 786  | 2500        | 23200            | 3600        | 2600     | 3.2               | 2°      |
| <b>WE80M</b>  | 47       | 454 | 678  | 1403 | 4463        | 34500            | 2000        | 1800     | 3.2               | 2°      |

\*Maximum spacer RPM = Maximum standard RPM if using optional high speed rings

# Dura-Flex® Metric BTS Couplings

## Dimensions

### Assembly Dimensions for BTS Couplings.

(All dimensions in millimeters) Minimum Shaft Spacing = 6.35mm

### Dimensions Common to BTS Standard and Spacer Assemblies

| SIZE           | A   | B   | C   | Max Bore |
|----------------|-----|-----|-----|----------|
| WE2M & WES2M   | 94  | 47  | 24  | 29       |
| WE3M & WES3M   | 108 | 59  | 38  | 35       |
| WE4M & WES4M   | 115 | 66  | 43  | 42       |
| WE5M & WES5M   | 137 | 80  | 44  | 48       |
| WE10M & WES10M | 165 | 93  | 48  | 54       |
| WE20M & WES20M | 187 | 114 | 52  | 60       |
| WE30M & WES30M | 214 | 138 | 59  | 73       |
| WE40M & WES40M | 247 | 168 | 64  | 86       |
| WE50M & WES50M | 288 | 207 | 70  | 92       |
| WE60M & WES60M | 318 | 222 | 83  | 102      |
| WE70M & WES70M | 356 | 235 | 92  | 114      |
| WE80M & WES80M | 406 | 287 | 124 | 152      |

### Standard Element Assembly

| Product No. | OAL MAX | OAL MIN | Maximum DBSE | Weight kg |
|-------------|---------|---------|--------------|-----------|
| WE2M        | 96      | 82      | 48           | .68       |
| WE3M        | 110     | 97      | 34           | 1.5       |
| WE4M        | 119     | 97      | 33           | 2.0       |
| WE5M        | 135     | 110     | 46           | 3.4       |
| WE10M       | 141     | 105     | 46           | 5.1       |
| WE20M       | 173     | 109     | 69           | 7.4       |
| WE30M       | 193     | 118     | 76           | 12.6      |
| WE40M       | 207     | 129     | 80           | 20.6      |
| WE50M       | 234     | 147     | 94           | 26.8      |
| WE60M       | 272     | 164     | 107          | 37.5      |
| WE70M       | 279     | 183     | 123          | 49.4      |
| WE80M       | 375     | 236     | 169          | 110       |

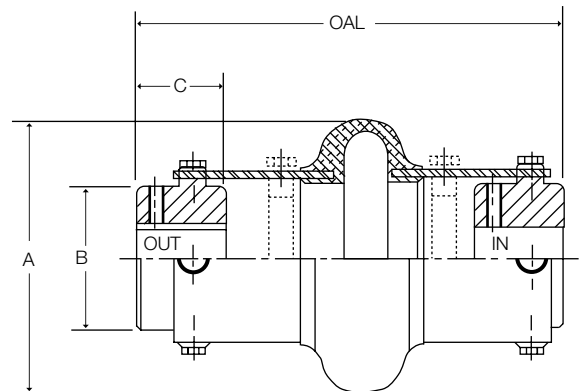
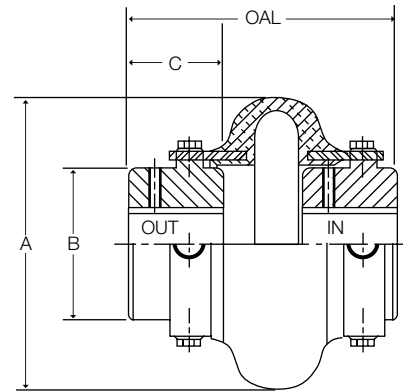
Product number is element only.

### Spacer Element Assembly

| Product No. | OAL MAX | OAL MIN | Maximum DBSE | Weight kg |
|-------------|---------|---------|--------------|-----------|
| WES2M       | 145     | 145     | 103          | 1.1       |
| WES3M       | 204     | 185     | 128          | 2.2       |
| WES4M       | 213     | 185     | 127          | 2.8       |
| WES5M       | 216     | 185     | 127          | 4.3       |
| WES10M      | 223     | 185     | 127          | 6.2       |
| WES20M      | 284     | 237     | 180          | 8.7       |
| WES30M      | 296     | 237     | 180          | 14.1      |
| WES40M      | 302     | 237     | 175          | 22.2      |
| WES50M      | 313     | 237     | 173          | 28.8      |
| WES60M      | 414     | 315     | 248          | 41.3      |
| WES70M      | 427     | 318     | 243          | 58.1      |
| WES80M      | 501     | 318     | 248          | 117.0     |

Product number is element only.

Shaft Spacing from 6.35 mm up to the MAX DBSE can be accommodated by positioning hubs IN or OUT or by using various existing hole patterns. OAL — Over All Length does not include bolt heads.



Sizes WES2M through WES10M are furnished with high speed rings. All larger sizes, rings can be ordered as an option.

All weights shown are with MPB style hubs.

# Dura-Flex® Metric Taper-Lock® Bushed Couplings

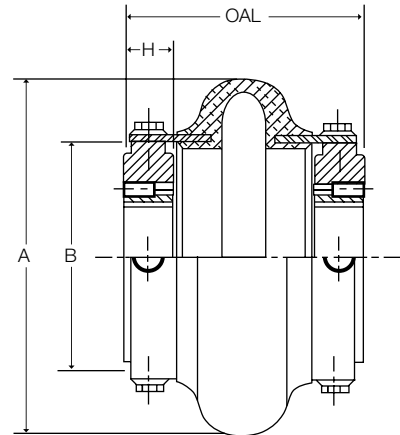
## Dimensions

### Assembly Dimensions for TAPER-LOCK® Bushed Couplings.

(All dimensions in millimeters) Minimum Shaft Spacing = 6.35 mm

### Dimensions Common to TAPER-LOCK® Bushed Standard and Spacer Assemblies

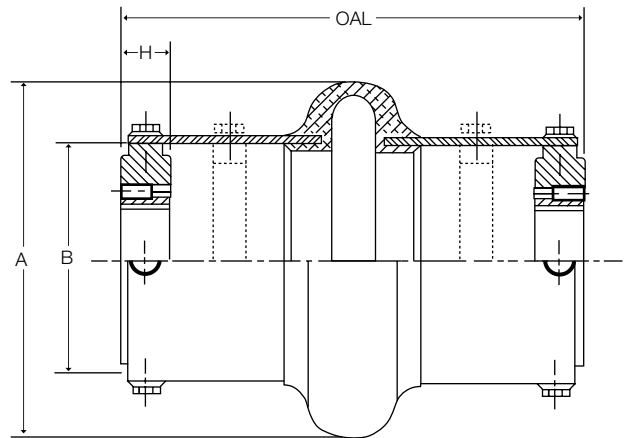
| SIZE           | A   | B   | H   | Bushing | Max Bore |
|----------------|-----|-----|-----|---------|----------|
| WE3M & WES3M   | 108 | 59  | 22  | TL1008  | 26       |
| WE4M & WES4M   | 115 | 66  | 22  | TL1008  | 26       |
| WE5M & WES5M   | 137 | 80  | 22  | TL1210  | 32       |
| WE10M & WES10M | 165 | 93  | 25  | TL1610  | 44       |
| WE20M & WES20M | 187 | 114 | 25  | TL1610  | 44       |
| WE30M & WES30M | 214 | 138 | 32  | TL2012  | 55       |
| WE40M & WES40M | 247 | 168 | 44  | TL2517  | 68       |
| WE50M & WES50M | 288 | 207 | 44  | TL2517  | 68       |
| WE60M & WES60M | 318 | 222 | 51  | TL3020  | 82       |
| WE70M & WES70M | 356 | 235 | 89  | TL3535  | 100      |
| WE80M & WES80M | 406 | 287 | 102 | TL4040  | 113      |



### Standard Element Assembly

| Product No. | OAL | Maximum DBSE | Weight kg |
|-------------|-----|--------------|-----------|
| WE3M        | 87  | 43           | 0.8       |
| WE4M        | 87  | 43           | 1.2       |
| WE5M        | 100 | 56           | 1.8       |
| WE10M       | 103 | 52           | 2.7       |
| WE20M       | 114 | 64           | 4.1       |
| WE30M       | 129 | 65           | 6.2       |
| WE40M       | 149 | 60           | 9.9       |
| WE50M       | 165 | 76           | 14.3      |
| WE60M       | 186 | 84           | 21.1      |
| WE70M       | 238 | 60           | 30.3      |
| WE80M       | 298 | 95           | 37.2      |

Product number is element only.



### Spacer Element Assembly

| Product No. | OAL MAX | OAL MIN | Maximum DBSE | Weight kg |
|-------------|---------|---------|--------------|-----------|
| WES3M       | 185     | 185     | 137          | 1.5       |
| WES4M       | 185     | 185     | 137          | 1.9       |
| WES5M       | 185     | 185     | 137          | 2.7       |
| WES10M      | 185     | 185     | 133          | 3.6       |
| WES20M      | 237     | 237     | 174          | 5.4       |
| WES30M      | 237     | 237     | 168          | 8.2       |
| WES40M      | 244     | 237     | 155          | 12.2      |
| WES50M      | 244     | 237     | 155          | 17.0      |
| WES60M      | 328     | 315     | 226          | 27.5      |
| WES70M      | 364     | 318     | 186          | 36.9      |
| WES80M      | 377     | 318     | 174          | 42.3      |

Product number is element only.

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OAL — Over All Length does not include bolt heads.

Sizes WES3M through WES10M are furnished with high speed rings. All larger sizes, rings can be ordered as an option.

All weights shown are with MPB bushings.

# We Have A Product For All Your Coupling Needs

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Besides the full line of stock DURA-FLEX couplings —  
Wood's has other stock coupling lines that may fill your application.

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## Sure-Flex Plus®

- Operates in shear
- No lubrication
- Four-way flexibility
- Easy installation

**Up to 115 HP  
@ 100 rpm**

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## Gear Couplings

- High Torque Capacity
- Torsionally Stiff
- Good Inherent Balance
- Rated for Higher Speeds
- Many Types and Configurations

**Up to 2714 HP  
@ 100 rpm**



## Jaw Couplings

- Economical
- No maintenance
- Industry standard
- Large inventories

**Up to 30 HP  
@ 100 rpm**

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## Form-Flex®

- All metal construction
- No lubrication
- Wide temperature range
- Zero backlash
- API offering

**Up to 3175 HP  
@ 100 rpm**

